



## Choosing the Right Annual Grain Forage

Tracy Neff, King's Agronomist

When it comes to spring planted annual forages, many farmers consider planting small grains like oats, spring triticale or spring barley. These are often planted as forage, cover crop or a nurse crop for establishing with alfalfa. The resulting forage, with proper fertilization, can be of high quality in a relatively short period of time- approximately 60 days.

### Seed Selection

In yield trials that we planted and harvested in the spring and fall of 2013 in Lancaster County, PA, we observed that the later heading oat varieties had higher forage yields in the spring while the earlier maturing oat, spring triticale and spring barley varieties had higher yields in the fall. The maturity of the annual small grain species had the greatest effect on yield. In the spring, day length and temperatures trend longer and higher. Using a later maturing forage in the spring takes advantage of these trends using more of the growing season, which gave higher yields. In the late summer planting in the latter part of August, days get shorter and temperatures begin to drop as fall approaches, reducing heat units available for crop growth and crop photosynthesis. We saw that using a shorter maturing variety or species planted in late summer often gives higher fall yields.

The data (in Table 1) shows a comparison of forage yields of different grain forages from spring to fall. The data we collected shows the longer maturing forages yielded better in the spring and the shorter maturing forages yielded better in the fall.

### Summary

Selecting the correct annual grain forage for early spring or late summer plantings can make a difference. If we select an early maturing annual grain for spring planting, we may be able to harvest 7 to 10 days earlier, but yields could be less than selecting a later maturing annual grain to harvest at a later date. A later maturing annual grain could still be planted as a late summer seeding but it should be planted in early to mid August. And for late August through early September seeding, the data shows an early maturing annual grain could be the better choice.

**Table 1. Differences in yield from Spring to Fall sorted by increasing maturity from Mt Joy, PA 2013**

Oat Varieties		Harvest Date	DM Yield Tons/A	Tons @ 65%	Plant Height "	Days to Harvest	Days to Boot	Feekes @ Harvest
Badger Oats	Spring	24-May	1.1	3.1	24.0	50	50	10.0
Badger Oats	Fall	30-Oct	2.5	7.0	34.3	59	57	10.1
AC King's Barley	Spring	31-May	1.5	4.4	28.5	57	57	10.0
AC King's Barley	Fall	30-Oct	2.7	8.0	28.3	59	NA	9.5
Pronghorn Triticale	Spring	31-May	1.4	3.9	28.0	57	57	10.0
Pronghorn Triticale	Fall	30-Oct	2.5	7.1	26.7	59	NA	8.7
Reeves Oats	Spring	31-May	1.7	4.9	23.0	57	57	10.1
Reeves Oats	Fall	30-Oct	2.6	7.5	30.0	59	NA	8.0
Jerry Oats	Spring	11-Jun	2.5	7.3	35.3	68	63	10.4
Jerry Oats	Fall	30-Oct	1.6	4.6	25.3	59	NA	7.0
Bay Oats	Spring	11-Jun	3.4	9.6	30.0	68	64	10.3
Bay Oats	Fall	30-Oct	1.8	5.3	26.3	59	NA	7.0
ProLeaf 234 Oats	Spring	11-Jun	2.8	7.9	30.7	68	64	10.3
ProLeaf 234 Oats	Fall	30-Oct	2.0	5.7	26.3	59	NA	7.0
Forage Maker 50 Oats	Spring	11-Jun	2.9	8.2	35.0	68	65	10.2
Forage Maker 50 Oats	Fall	30-Oct	1.7	4.8	25.3	59	NA	7.0
Everleaf 126 Oats	Spring	11-Jun	2.3	6.7	27.3	68	68	10.0
Everleaf 126 Oats	Fall	30-Oct	2.1	5.9	24.3	59	NA	7.0
Spring harvest occurred on different days based on maturity to boot stage								
Fall harvest occurred all on the same day								